

New programs set for 1973

Increased aid to municipalities, a growing emphasis on land use planning and significant new approaches to waste management are among the highlights of Environment Ontario's 1973 program. Environment Minister James Auld said in a statement introducing the Ministry's 1973 budget to a Legislative committee. \$81 million is being earmarked for loans and grants for the capital construction of water and sewage treatment facilities.

This is a continuation of the program developed since the founding of the Ontario Water Resources Commission. Since that date, the OWRC and the Ministry have issued certificates for municipal water and sewage works worth more than \$2.6 billion, Mr. Auld said. Last year alone, \$344 million in sewage and water works were approved and \$75 million worth of these projects involved provincial financing.

In total, he said, the Ministry has financed and constructed 418 projects serving

241 municipalities.

"We expect to grant \$3.6 million to smaller municipalities to make possible the construction of adequate water and sewage treatment facilities. Since 1969, when Ontario undertook this program of extending financial aid for up to 50 percent of capital construction costs for these facilities, more than 250 projects were launched. We have spent or committed \$130.6 million in incentives for more than \$400 million worth of water and sewage treatment works," Mr. Auld said.

Early this year, to stimulate similar works in smaller municipalities, Ontario raised the grant ceiling to 75 percent. The percentage of the capital cost to the Province is based on consumer cost objectives of \$130 per year for sewage treatment and \$110 per year for water services.

PLANNING

The Ministry is getting more involved in the effects of land use on the quality of life. The strategic planning

branch, established last year, co-ordinates and is consulted in environmental planning and policy analysis.

The Private Waste and Water Branch, in addition to its program of research into domestic sewage treatment in soil and its cottage pollution control activities, is deeply involved in assessing the suitability of development proposals for specific areas of unserved land.

The emphasis on land use planning is increasing. "In 1973-74 I expect our formal input into official plans and amendments, subdivision plans and Ontario Municipal Board hearings will triple. The goal is to provide environmental assessment to help ensure that land use is consistent with air quality considerations," Mr. Auld said.

The activities of this branch are being extended into new

territory this year to regulate noise from vehicles, stationary sources and recreational devices such as snowmobiles in addition to establishing provincial ambient noise criteria and land use policies. "We're limiting the geographical coverage of this program to the Toronto-Hamilton area during the first year to get things moving smoothly and quietly.

(Continued Page 4.)

ENVIRONMENT ONTARIO LEGACY

VOLUME 2, NO. 3 "A better Ontario for tomorrow's generations" MAY/JUNE, 1973

Conference on waste control

Ontario's deputy environment minister Everett Biggs was the keynote speaker June 18 at the 20th annual Ontario Industrial Waste Conference opened at Toronto's Skyline Hotel.

His topic was the changing world of waste control in Ontario.

More than 350 delegates attended the three-day conference held under the auspices of the Ministry of the Environment. Papers were presented and discussed at the conference by representatives of industry, government and education.

The theme was government-industry relationship in the morning session on Monday, June 18. H. D. Paavola chaired the session.

Richard Judy, professor of economics, University of Toronto, presented a paper evaluating alternative instruments of water quality management. F. H. Knelman, department of humanities of science, Sir George Williams University, discussed the growth of limits.

TREATMENT

In the afternoon session on biological treatment chaired by John D. Reid, M. R. Cameron and A. D. Fitzgerald of T. W. Beak Consultants Ltd. discussed the cold weather operation of mechanically aerated lagoons.

D. C. Climenhage and A. Stelzig, Dupont of Canada, Ltd. presented a paper on biological process for nitrogen-BOD removal at Dupont's Midland works. Another paper, on the development and implementation of a two-stage biological process for high-strength wastes, was presented by J. D. Norman, Pollutach Pollution Advisory Services Ltd., and D. A. Corbishley, National Starch and Chemical Co. (Canada) Ltd.

L. S. Love chaired Tuesday

morning's session on the treatment of petroleum and petrochemical wastes.

Ken C. Bradley and F. M. Hager of Uniroval Ltd. chemical division presented a paper on water pollution control at a multi-product organic chemical plant. David Wells of Environment Ontario's water quality branch delivered a paper on the biomonitoring of petrochemical waste waters. The development of a waste water treating system was discussed by J. B. Greenshields and N. J. Czornyj of Sun Oil Company Ltd. and T. A. Constantine, of M. M. Dillon Ltd.

TOPICAL SESSION

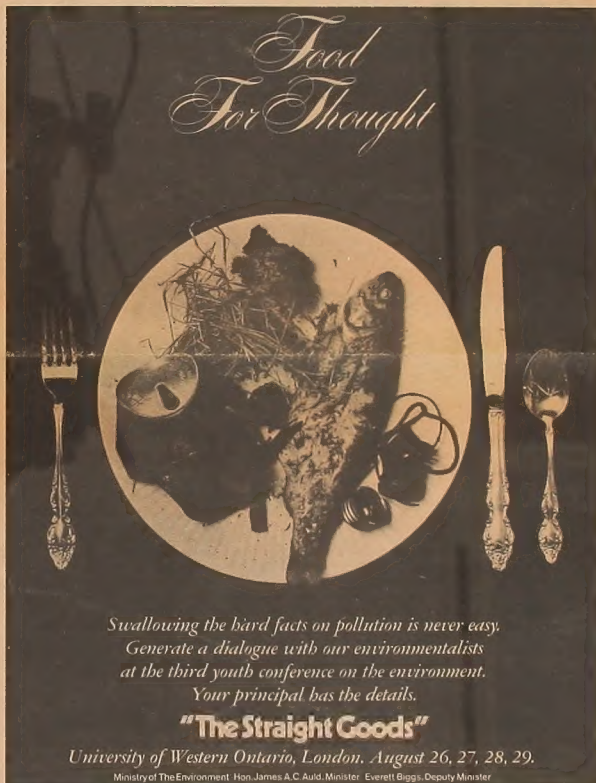
Tuesday afternoon's session, chaired by Ross M. Cooper, dealt with current concerns and technical approaches. J. B. Knapp of Brenda Mines Ltd. presented a paper on water reclamation and reuse at Brenda Mines, and P. G. Belling of Environment Ontario's industrial wastes branch discussed contingency plans in action. D. C. Cook of Labatt's Breweries of Canada, Ltd. and J. H. Linton, The Ogilvie Flour Mills Co. Ltd. presented a paper on pollution abatement through by-product development.

(Continued Page 2.)

May 13 to 19 was Environment Week in Burlington.

A seven day schedule of environmental events involving the public, citizen groups, industry and government agencies was organized by the Burlington Citizens' Committee for Pollution Control.

The third annual environment week was kicked off with a town hall reception in which the timetable was outlined to participants, dignitaries and the press.



*Swallowing the hard facts on pollution is never easy.
Generate a dialogue with our environmentalists
at the third youth conference on the environment.
Your principal has the details.*

"The Straight Goods"

University of Western Ontario, London, August 26, 27, 28, 29.

Ministry of the Environment, Hon. James A.C. Auld, Minister; Everett Biggs, Deputy Minister

Straight Goods III, Environment Ontario's third annual youth conference to develop environmental awareness will be held at University of Western Ontario, August 26-29. This stark poster is one of the talking pieces to get debate under way. Details Page 8.

Ecology week for Burlington

Over the weekend, nature hikes were led along the Bruce Trail Saturday and Sunday. At the same time, the Save the Lakeshore Association led a bicycle tour along Lake Ontario.

Environment Week coordinator, Mrs. M. Cooper, said environmental groups from the area, federal and provincial agencies, conservation groups and schools set up exhibits in a local shopping mall to tie in with the week.

One contest, a pop can pull

tab collection, drew dozens of entries with a total of 50 pounds of pull tabs turned in at the Citizen's committee display booth at the mall, said Mrs. Cooper. A Grade 5 class from St. John's School turned in the winning collection—13 pounds, two ounces.

During the week, a crew from the citizens committee's active and successful recycling centre visited eight or 10 schools. Mrs. Cooper said, to outline how the centre operates and to teach children

what they can do to help.

The committee, in addition to recycling and public information, is active in a number of areas. Over the past few months it has filed submissions to Environment Ontario dealing with beverage container control, with the Ministry of Transport and Communications concerning a proposed expansion of the Queen Elizabeth Way and briefs to the federal-provincial Man and Resources program on packaging, recycling and transport.



The large acid tank (right) and a fuel oil tank lie toppled and battered after the ERCO explosion.

Mop up ERCO acid spill

The explosion of a sulphuric acid tank caused the spill of 800 tons of acid and 80 tons of Bunker C oil March 27 at ERCO Industries Limited's Port Maitland plant.

But prompt action by the company under the direction of Environment Ontario's industrial wastes branch contained the spill for neutralization of the acid.

The blast took place as acid was being transferred from a tank truck to the large storage

tank. Two company employees and the tank truck driver were injured and the acid storage tank toppled onto a smaller oil tank spilling its contents.

Staff from the Ministries of the Environment and Natural Resources checked the Grand River after early reports that some of the acid had escaped into the river. They found no trace of acidity and Peter Chisholm, of Environment Ontario's industrial wastes branch, found the oil and acid

had been stopped in a marshy area by a natural dike a short distance from the river.

Under his direction, ERCO employees began extending the dike with earthmoving equipment and neutralizing the contained acid.

The acidity of the spill area is still being tested regularly and further neutralizing material has been added as required. Monitoring of the river has shown that the spill has had no effect on the water.

Ministry course at INCO

At the invitation of the International Nickel Company Ltd., Environment Ontario's training and licensing staff took the basic gas chlorination workshop to Sudbury.

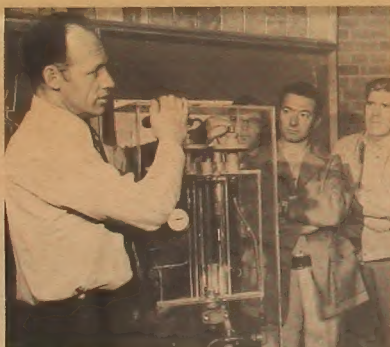
The workshop, one of the training programs offered to ministry and municipal employees and industrial workers involved in waste and water treatment facilities, was conducted at INCO's training centre for the benefit of 19 INCO employees, three Sudbury waterworks men, one CPR employee, and an Environment Ontario Regional engineer.

"The purpose of our training and licensing courses is to develop an operator who feels at home in the operation of waste or water treatment facilities," said Andy Matwchuk, training officer.

J. L. Bourque, supervisor of training and licensing, said the principal reason for developing a gas chlorination workshop is "the great importance of chlorination in maintaining a desirable water quality at waste water and more important, at water treatment plants."

"Many operators have a fear of chlorine gas and as a result they are reluctant to undertake the necessary preventive maintenance procedures to keep chlorination equipment in proper working order," he said.

Al Cooper, training officer, added that 90 percent of the operators joining the workshop have never had a chance to practice on the chlorination equipment until they take the course. "Project operations have noticed a 40 percent drop in their service calls since their operators have taken the course," he said.



Dave Woods of Environment Ontario's research branch demonstrates a gas chlorinator.

The trip to INCO was significant for the training program as the first such workshop to be offered outside Metropolitan Toronto. Mr. Bourque was especially pleased by the recognition given in the invitation from a major industry.

While the workshop is normally five days in length, covering basic theory, laboratory testing, safety and familiarization with equipment, operation and trouble shooting, the Sudbury course was presented on two days in May. The time reduction was possible because the INCO staff were already well versed in some parts of the course—safety and the use of air packs.

While training and licensing is a three-man section, it relies heavily, for its success, on the expertise and training ability of specialists from other Ministry staff.

Solid waste

(Continued from Page 1)

Current concerns and technical approaches was still the topic Wednesday morning as Dr. Roy Whitehead took the chair.

J. D. Heaman, of Environment Ontario's solid waste task force discussed the solid waste scene, and T. B. Reynolds of Ontario Hydro delivered a paper on the topic of what to do about environmental assessments.

Hugo Holland, pollution control coordinator of Imperial Oil Enterprises Ltd. engineering division, presented a wrap-up of the conference.

A full ladies program, prepared for wives and children, included a tour of Pioneer Village.

A full report on the conference will be published in the next issue of Legacy.

Briefly: Cycling to recycling

ACTION ON RETURNABLES IN WINNIPEG

A Winnipeg soft drink firm has raised the refund value of bottles in circulation in an effort to help solve the local litter problem and to get back bottles people just were not returning. The increase is from two to five cents on seven, 10 and 16 ounce bottles and from five to 10 cents on larger containers.

LAKE LEVELS

Environment Ontario officials in a survey of 16,724 shoreline private sewage disposal systems, found 7,001 would not function properly because of high levels in the Great Lakes.

The survey, conducted by the private waste and water branch, lasted three weeks and covered 630 miles of shoreline from Burlington to Amherst in Huron County.

The following conditions were found: —32 percent of the systems had water levels less than two feet below grade; 8 percent were surface flooded; and 2 percent had erosion damage.

No estimate has been made of financial loss or the cost of replacing damaged or flooded systems with new systems at a safer elevation.

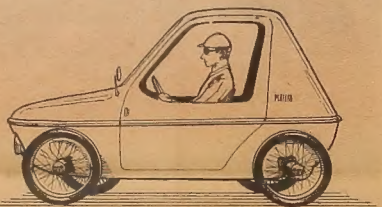
A detailed report is being prepared by the branch which will include an extension of the survey as far east as Oshawa.

PEDAL AGAINST POLLUTION

Always on the lookout for the latest in pollution-free transportation, Legacy discovered this latest effort in a U.S. national automotive magazine.

Built by Environmental Transport of Windsor, Connecticut and priced at \$550, this pedal-powered wonder will do a top non-polluting speed of 14 mph, depending on your state of endurance. It's made of plastic and boasts an adjustable steering column, rear disc brakes, and to keep it really up to date, a hatch-back.

No, it isn't legal for expressways.



DOMTAR TREATMENT IMPROVES

Treatment facilities worth \$720,000 are being installed at Domtar Fine Papers Limited's Cornwall mill as a result of a study into taste, odor and fish tainting.

When the installation is complete later this year, Domtar will be the first mill in Ontario to remove pollutants from its wastewater discharges that are known to affect the taste and odor of water, cause tainting of fish and toxicity to fish and other aquatic organisms.

In addition to improving water quality, new facilities will control odors from a number of plant sources and result in a marked improvement in air quality near the plant.

G.E. Higham joins Environment Ontario

G. E. Higham has been appointed executive director of Environment Ontario's financial and administrative services division, deputy minister Everett Biggs announced recently.

Mr. Higham will be responsible for administrative services, personnel and financial services in addition to participating in the development of the Ministry's short and long range plans and policies.

He replaces R. K. Sachse, who recently joined the Civil Service Commission as executive director of the personnel policy division.

A member of the Institute of Municipal Treasurers and Accountants Association and of the Institute of Public Administration of Canada, Mr. Higham comes to the Ministry from Management Board of Cabinet. He was director of government and divisional services branch, programs and estimated division. He also served in Ontario's Department of Municipal Affairs.



G. E. HIGHAM

Mr. Higham came to the Ontario Government in 1964 after an accounting and auditing career in England with the municipal councils of Coventry, Eastbourne and West Sussex.

Mr. Higham, 33, lives with his wife and two children in Scarborough.

Hamilton hosts PCAO convention

"Steel-City", Ontario was the location for the 1973 Pollution Control Association of Ontario Convention.

The three-day meeting began on April 9 at the Sheraton Connaught in Hamilton and included various presentations and seminars, plus a tour on the final day of Hamilton's new water and sewage treatment facilities.

Monday morning opened with a strong theme presented by Dr. B. H. Kaye of Laurentian University, with the title Population Growth and the Environment. He set a tone for the conference by emphasizing the dignity of the individual as a guideline for environmental management. He compared today's rapid technological advances with the mid-1800s, when cholera epidemics were the result of the impact of flush toilets on inefficient and limited sewage systems.

He emphasized that unlimited growth in population and industry without equivalent improvements in utilities could

result in similar problems by the year 2000.

The next two speakers were sufficiently at opposite ends of the scale to prompt some lively discussion after they had made their presentations. Mr. F. Gormley of Inco talked about industry's approach to pollution control, and David Estrin of the Environmental Law Association questioned the effectiveness of our existing laws in environmental protection.

The afternoon session saw Dr. W. Emrich present a paper on on-site generation of chemicals for use at sewage treatment plants. Chlorine dioxide was the topic of Mark Love and ozone was discussed by Dr. H. Rosen.

Tuesday's varied program included papers on television inspection and sealing techniques with Mr. K. Perkins, reeling with plastic pipe presented by R. M. Bremner, smoke testing by Mr. F. Nichols, refuse incineration was the topic of Mr. I. Mc-



Dave Caverly, left, accepts the Arthur Sidney Bedell Award from John D. Parkhurst.

Kerracher, sanitary landfill was discussed by Mr. D. Scott and Elliot Krever talked on the recycling of paper.

Several presentations were made at the banquet. A P.C.A.O. outstanding achievement award went to Gay Lea Foods Ltd., for their efforts in controlling food processing wastes. The company has spent \$65,000 in waste treatment facilities, a considerable expenditure when the size of the company is taken into consideration.

Dave Caverly, assistant deputy minister for Environment Ontario, received the Arthur Sidney Bedell Award in recognition of his outstanding service in the sewerage and sewage treatment works field.

The William Hatfield Award went to Alan Robson in recognition of his outstanding job in his duties in the operation and maintenance of a major industrial waste treatment facility. He is the supervisor of the waste treatment system at the Salada Food plant in Alliston, Ontario.

The three-day meeting also saw D. P. Caplice, director of Environment Ontario's industrial waste branch, elected as president of the P.C.A.O. for the coming year.



Dennis Caplice, left, presents award to Gay Lea's Peter McLinden.

AWWA meeting held in Ottawa

Canada's capital hosted the 1973 joint meeting of the American Water Works Association (Ontario Section) and the Ontario Municipal Water Association, April 29-May 2.

This annual event brings together people primarily concerned with the construction and operation of municipal water and sewage facilities and gives them an opportunity to discuss matters relating to this important field.

Setting the tone for the three-day event was keynote speaker Bert Lawrence, Provincial Secretary for Resources Development. Mr. Lawrence gave the delegates an indication of the latest government thinking on both the future of municipal water works, and on regional government.

Monday morning also saw Roger Davies, editor of Water and Pollution Control magazine, give an informative and at times extremely humorous presentation on the effectiveness of good media relations in the operation of utilities.

The final morning session was a paper on a master plan for water supply in Ottawa-

Carlton presented by F. E. Ayers.

Monday afternoon saw a choice of programs. One dealing with management problems, and the other a series of discussions on technical problems. In the management group Charlie Kew spoke on uniform accounting. Landfill and solid waste disposal was discussed by Prof. Clark of Queen's University and subdivision impacts and levies were handled by Harold Sears.

On the technical side, the role of chemistry in the water treatment process was discussed by William Hargrave, uprating and redesign of existing water treatment plants with advanced engineering and chemical technology was the topic of Ed LaFontaine and under-water inspection of waterworks intakes was covered by Ben Davis.

Part of Tuesday was set aside for a technical tour. Delegates were taken across the Ottawa River to Hull where they inspected the recently completed water plant.

This plant was of special interest to the Ontario delegates

as it incorporates the Degremont process. This technique uses a pulsating clarifier, and "Aquaazur" type-V air-water wash filters. Drawing more than 12 million gallons per day from the Ottawa River, the plant employs pre- and post-chlorination.

Also on Tuesday Michael Lewis, information officer for Environment Ontario, presented an audio-visual program that touched on the many highlights of water management in Ontario, past, present and future.

Wednesday's sessions were devoted to metrication and the implications of conversion to this system in the waterworks industry.

Parallel with these formal presentations was a series of group work-shop sessions. At these, consideration was given to water distribution system maintenance, community relations, leak surveys-cost and relative values and planning of local small water systems.

After a brief summary of the three-day meeting, the 400 delegates returned to the far corners of the province to put

into action some of the things they learned at the Ottawa conference.

Eskimos take advantage of local oil spill

An arctic oil spill, while it still poses a threat to the environment has provided a boon to some 240 Eskimos settled on Holman Island.

About 30,000 gallons were locked into the frozen gravel on the beach of the island 600 miles north of Yellowknife when a storage tank overflowed there last December. This fuel oil was soaked up by the gravel beach before it could flow onto the eight-foot thick ice, but Northwest Territory officials are concerned about the effect of spring thaw.

They fear that a thaw will start the oil flowing into the sea in spite of efforts to stop it. Since December, trenches have been cut along the beach and some oil has seeped into

Clinton and Chatham, the London offices are the main headquarters for the Ministry in Southwestern Ontario.

Regional waste study under way

A waste management study in Hastings County, Belleville and Trenton jointly financed by the municipalities and the Ministry, will be conducted by Gore and Storrie Ltd., Consulting Engineers.

The engineers are to report on existing solid waste systems and collection methods and to assess the present sources of waste and the present disposal sites. This information and planning data will be used to formulate recommendations on improving existing systems and on developing new landfill sites.

The report will also provide a technical assessment of the feasibility of re-use reclamation and recycling in this area and an analysis of cost-sharing alternative involved in any recommendations.

Environment Minister James Auld recently announced that the Ministry's financial aid to area studies like this will be supplemented by further grants to assist in the implementation of area waste management studies.

the trenches for mopping up. The Eskimos have discovered that if this mixture of water and oil in the trenches is frozen, the oil can be easily separated, and since the trenching began, a number have been recovering oil to keep their stoves and heating units running on free fuel.

While federal environment officials are moving in specialized cleanup equipment, there are complicating factors. Booms will be virtually useless until the sea ice breaks up and moves out from the shore. Last year, it was August before the last of the flocks moved to open water.

Tides which carry out the ice, can be followed by winds which bring it right back to destroy a deployed oil boom.

\$250 million Great Lakes commitment

(Continued from page 1)

Also in the works is a model bylaw for municipal use in noise enforcement," he said.

The air management branch now monitors atmospheric quality in 44 Ontario communities, maintaining an air pollution index and alert system in Toronto, Hamilton, Windsor and Sudbury.

Records of the index provide a clear indication of the general improvement of urban air quality as a result of the Ministry's air pollution control program.

The results of air pollution control are gratifying. In Toronto, alone, between 1966 and 1971, sulphur dioxide levels were cut in half and suspended particulate matter, the other major air contaminant was reduced by a third.

In 1973-74, the monitoring network will be extended to measure sulphur dioxide and suspended particulate matter in four additional communities—Oakville, Burlington, St. Catharines and Welland.

PESTICIDES

"The Ministry's Pesticides Control Service made great strides last year," he said. The provisions of The Pesticides Act which deals mainly with the application of pesticides, have been supplemented by regulations under the Environmental Protection Act. These regulations, which classify pesticides in accordance with their potential for

harm if abused, govern the sale, storage, distribution and display of these chemicals. The regulations spell out clearly who may sell or apply specific classes of pesticides. The effectiveness of these changes will be demonstrated over the next fiscal year.

A new Pesticides Act which has received third reading will encompass all aspects of pesticides control and 1973-74 will see the enactment of this legislation and its implementation, he predicted.

SOLID WASTE

It has been just two years since the Province assumed responsibility for the control of solid waste management methods.

At that time, each municipality owned and operated its disposal site or sites and many of these were open dumps—pollution sources, health hazards and nuisances to neighbors in particular.

The first priorities were to make sure that all new sites were located and operated so as to eliminate problems and to replace or improve existing sites.

Mr. Auld said Ontario's waste management policies have two major goals—to reduce the amount of waste generated and to provide for reclamation of material or energy.

We have encouraged area waste management planning with 50 per cent provincial grants and seven of these

studies are under way. The next step is the implementation of these studies.

"There is \$500,000 set aside in this budget for these area studies—that is, the municipal development of waste management facilities. Our intention is to encourage communities to improve their treatment and disposal of municipal waste."

"The development of a pilot waste reclamation project—I hope in conjunction with Metropolitan Toronto and the federal government—is of prime importance to me," he said.

RECYCLING

The budget also provides for two recycling projects, based on the information obtained from the Burlington waste reclamation study. One of these will investigate whether paper alone can be consistently and reliably separated.

The Ministry also proposes two studies this year on the reclamation of energy from waste—one using ground garbage as a fuel additive in cement kilns and the other using waste in conjunction with oil or coal to produce electricity.

Last year's survey program to determine the extent and severity of the problem of abandoned auto hulks littering the province and representing a significant waste of resources, will be followed this year. "We will establish pilot projects in the collection and reclamation of these hulks, trying several methods

to determine the most efficient and effective method," he said.

"We intend to have a province-wide reclamation program established permanently in 1974."

The growing problem of the disposal of organic wastes, particularly the sludge from municipal sewage treatment plants, will be dealt with in a program which goes into full operation this year. The recently introduced regulation will insure the strict control needed to prevent pollution problems and nuisance.

"I view litter as primarily a behavioral problem and a program undertaken last year in public education on litter will continue. We want to back up our advertising and information programs with a continuing cleanup program using SWEEP students," Mr. Auld said.

"Last year's litter study and cleanup program has provided an information base that indicates the type, number and location of litter containers needed for best results."

THE GREAT LAKES

The Canada Ontario Agreement on Great Lakes Water Quality commits Ontario to a five-year \$250 million capital works program to upgrade sewer collection and treatment works in the Great Lakes by the end of 1975. In return, through the Canada-U.S. Agreement, the U.S. Govern-

ment is committed to a parallel program.

Part of Ontario's program involves the installation of phosphorus control facilities at some 200 treatment plants. By the end of this year, these facilities will be completed at 150 of these plants.

"A parallel research program is under way, primarily into phosphorus removal. To date we have spent \$1.8 million on this program and we intend to invest another \$2.3 million this year," Mr. Auld said.

The Ministry will be continuing its survey and surveillance activities in the Lower Great Lakes, assessing the effect of pollution control programs and the need for further measures, in cooperation with the Government of Canada.

In addition, a \$500,000 program of study will be undertaken in the Upper Great Lakes. The area of study includes pollutants loads to the Upper Lakes and near shore water quality in relation to water use criteria and the objectives set through the International Joint Commission."

"The Great Lakes program is, as you know, international in scope," Mr. Auld concluded. "In Ontario, we are sticking to our timetable, but we are concerned about the rate of progress on the U.S. side and we are continuing to work with Ottawa and informally with Great Lakes States."

Metro meeting airs cyclists' problems

Last year, Minister of the Environment James Auld helped to inaugurate Pollution Probe Scarborough's bicycle pathways system (Legacy, June/July 1972). Since that time, the numbers of bicycles have doubled and redoubled in the Metro area, and it was clear more of this sort of separation system was needed if bicycle users could effectively and safely use their machines.

On May 24, a general public meeting was held at St. Lawrence Center in Toronto in which all the problems relating to cycling were thrashed out under the chairmanship of Paul Cosgrove, Mayor of Scarborough, with panelists Ron Abrams of the Metro Roads Department, bicycle section, Les Humphreys, national recreational cycling co-ordinator, Canadian Cycling Association, and Len Steele of Pollution Probe, Scarborough.

The meeting was extremely well attended, and the response from the floor was varied and colorful. The basic problem that emerged was the need to separate cars and bicycles as much as possible. A tremendous number of bikes are now being used by adults—40,000 adult riders in Metro alone.

Mr. Abrams presented his basic plan for a pathways system for the metro area but there were several objections that there was not adequate allowance for a north-south route for commuters who preferred their cycles to cars or the subway but found traffic on the main north-south arteries too dangerous. One lady felt that the Metro parking authority should provide suitable, safe parking sections in public lots so that people could be reasonably sure of the security of their machines while at work.

TRAINING THE YOUNG

Strong emphasis was laid on the smaller and less experienced riders who often ride with no regard for conditions around them and get into accidents such as colliding with open car doors and running through stop signs due to their lack of understanding of sensible riding practices. The opinion was voiced that the schools and local authorities (including police) should be doing a more effective job of educating this younger class of cyclist. It was even suggested that

eight-year-olds and under should not be allowed on public thoroughfares.

BIKEWAYS MARKINGS

The present Pollution Probe cycle pathway through Scarborough is about three miles long, with about a half-mile of its length paved. The remainder is of finely crushed limestone. It is hoped that by the time the path is complete it will follow residential streets (in part) old railway rights of way and hydro rights of way to extend out to the new Metro Zoo in the northeast. At its southern end, it is hoped to extend it to Lake Ontario at Colonel Danforth Park, for a total of approximately seven miles.

In the future, the total length for all of the Metro bikeways should measure 22 miles. Local features such as the unused Belt Line railway right-of-way could be incorporated into the bikeway grid, as well as existing ravines and natural watercourse ravines.

One thorny problem was the crossing that great separator of Toronto, the 16-lane-wide Highway 401. Many representatives from north of this artery argued that the overall plan did not include provisions for pathways crossing over or under this road from sections of North York. Mr. Abrams said that there were a few points that were being looked into, one of them the Humber River Bridge. Bridge cuts have been used in the Scarborough pathway system to good

effect, by simply adding fill where there is space between the watercourse and the bridge supports.

As more families join the ranks of cyclists, there is a resultant strong market in add-on mini-seats for toddlers, and this elicited some concern from members of the audience. The present laws covering these devices are still vague, and it was said that the Canadian Standards Association was beginning to check these devices to assure that youngsters' legs would not get into the spokes of rear wheels and that the seats were engineered well enough to stay on the bicycle over rough terrain.

SAFETY QUESTION

How to keep cycles and traffic separated on streets connecting the pathways was also discussed. It was suggested that special bus lanes be also used by cyclists to separate cyclists and private car traffic as possible.

Part of the current dilemma lies in the interpretation of the Metropolitan Parks Bylaw, which places bicycles in the same category as motorized vehicles which can only be used on designated roadways for public vehicle use. It was noted that it was time that bicycles were given a category all their own, and routes designed for their use. Mr. Abrams stated that if enabling legislation is needed for this purpose, it should be sought in local councils.

There has been some confusion over marking of bicycle routes, and it was felt that a nationally uniform system of marking cycle routes be considered.

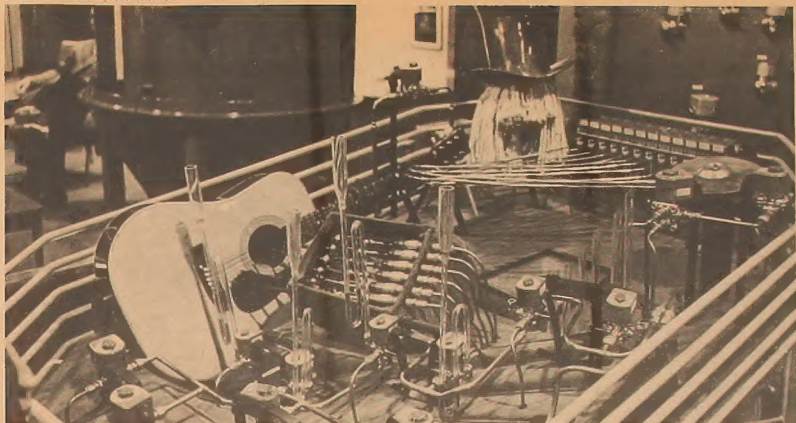
An interesting point was raised regarding the status of the bicycle in several U.S.A. jurisdictions. In some states, percentages of highway funds have been diverted to provide for the construction and upkeep of bikeways, and the system was working out quite well. This scheme was suggested for the Province of Ontario.

The best quote of the night came from a lady who regularly travels to work on a bicycle. Having been almost run off the road and suffered noxious gas fumes for months, she stated that due to the fact that her vehicle was not using up any resources, was completely pollution-free and used considerably less space than the average automobile, she felt that she had an even stronger right to the use of the roads than the car driver; a statement that brought the strongest applause of the evening.

The meeting provided a useful forum for cyclists as well as civic and action group representatives. It's entirely possible that in the not-too-distant future, the Metro area will see a more active planning and construction of its own network of cycling pathways.

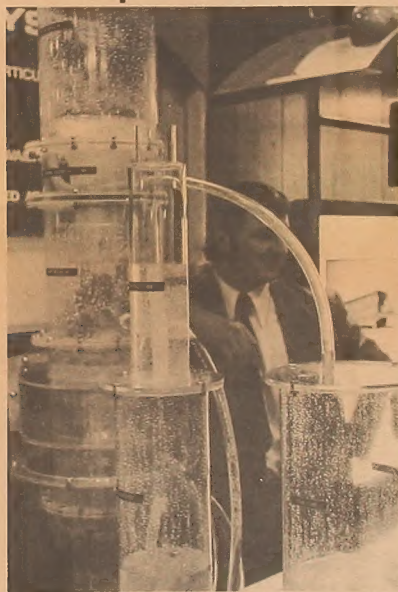
At the rate of growth of this revived activity, they will be sorely needed.





One equipment maker at the pollution control show had a mechanical guitarist, another impressed with height (right).

People and their machinery show how pollution is controlled



Bubbling liquid in clear cylinders and tubing were an integral part of many show exhibits.

Federal estimates set the cost of air and water pollution control between now and 1980 at approximately \$16 billion.

That's \$15 to \$2 billion a year in spending by federal, provincial and municipal governments and by industry. For three days in May, the manufacturers and sellers of pollution control equipment and the governments and industries involved in pollution control, were on display at the CNE

Automotive building in the second annual Pollution Control Show.

In a parallel seminar, the problems of control were discussed by the people involved in the industry.

More than 200 exhibitors took space to tell their stories and the exhibits provided a showcase of complexity that illustrated the rapid change and growth of pollution control in Canada.



Staff Photos: Paul Shuman



A girl at the show is intent on beautifying this cylinder with multi-colored flowers to brighten the showroom floor.

'A sane approach to control' - - - Dr. Berry

Public participation in environmental matters must be kept at a high pitch, but it must be given direction, Dr. A. E. Berry said at the second annual Pollution Control Show at the CNE.

Dr. Berry, often called the father of modern pollution control in Canada, was the first general manager of the Ontario Water Resources Commission and is past president of both the American Water Works Association and the Water Pollution Control Federation. He is the only person to hold this office with both these professional associations.

"The public is aroused as never before about the future of the world and particularly of our own country, but arousal itself is not sufficient," Dr. Berry said. "The momentum engendered in this arousal must be maintained and directed along the right road."

AMATEUR LEAD

He doubted that professional groups have played their proper part in this, partly because of a lack of understanding of public relations. "The amateurs - and scientifically untrained have taken the lead and often with unfortunate re-

sults."

It is time, he said, that the professionals were willing to pay the price of publicizing pollution control efforts, to ensure that correct information is disseminated.

SANE APPROACH

He said there are two extreme positions in environmental standards. One calls for the restoration of air and water to the quality it had before man tampered with it. The other extreme is "a laissez faire attitude in which man is energized only when disaster knocks at the door."

He called for a sane approach that allies the setting of a standard to the cost involved to get figures "which will ensure an environment in which human and other forms of life can flourish and live without restraint."

Dr. Berry admitted that it is often difficult for technical groups to draw the line on where to take action and where to wait for the results of further research.

But he argued that it is more reasonable to proceed with the knowledge we now possess than to take no action on pollution until "all the facts and im-

provements are in." This, he said, would mean that no action would be taken in many situations.

We seem to be doing too little in research in Canada, he argued. He called for greater coordination of effort and cost in research. "The value of research and experience is not to be underestimated."

He said environmental standards are no longer set for humans alone but for the entire ecosystem. "This is one of the major advances in requirements over the earlier days of public health."

Transit design contract awarded

Last year (Legacy, Jan. Feb. 1973) a \$1.2 billion program for the improvement and design of new transit systems was announced by Premier William Davis. At the same time, it was also announced that new methods of public transit would be encouraged and that a competition would be instituted to find a new approach to intermediate urban transit.

Now, Mr. Davis has announced the winner of that competition. A contract was signed on May 1 with Kraus-Maffei A. G. of Munich, Germany. The company, with a 130-year history of transit design and development, will be the prime contractor for the construction of a 2.5-mile intermediate capacity test system which will be built around the perimeter of the Canadian

National Exhibition grounds. This contract will be worth approximately \$16 million when the civil construction works to be contracted to Canadian firms are included.

Kraus-Maffei was chosen for a number of reasons, the primary being that many of the major sub-systems have already undergone extensive testing. Of equal importance was the fact that the cost projections for the production of operational systems were most competitive, and the company was able to deliver the system as stated in its sub-systems.

DESIGN BREAKTHROUGH

The Kraus-Maffei design will break totally new design ground in urban transit. Instead of operating on steel

wheels or rubber tires (which are contributors to the overall noise level) the KM system will be propelled by linear induction motors.

A linear induction motor is an unpowered electric motor. The current travels along a buried steel rail or cable and the car is suspended, held in place by the magnetic forces in the current. The only noise generated by this revolutionary mode of travel will be a slight whish of displaced air as the cars pass, about the same amount of noise produced by an air conditioner. This magnetic force will provide the motive as well as braking power for the cars, and due to its virtually pollution-free operation, the system could be built into commercial building fronts and quite close to high-density residential areas.

It's expected that when the first systems are completed, in about ten years' time, they will largely follow established hydro rights-of-way and railway lines. Of course, in more congested parts of the city some sections of the system will be placed underground.

The CNE project is a very necessary step in evaluating such a system for all-seasons operation, performance on tight turns, steep grades and general maintenance situations encountered on typical urban routes. The public will have a chance to ride the test system in 1975.

Premier Davis also announced on May 14 that the Ontario government has acquired exclusive license rights to all of the present and future intermediate capacity transit technology, including all patents and industrial property associated with the Kraus-Maffei system, for any application in Canada.

At the same time, the province acquired non-exclusive license rights for the same technology for Central and South America and a most favored nation provision for sales to the balance of the world. The government has also made provisions for the sub-licensing of private firms for the manufacture of complete systems and their associated hardware.

To ensure Canadian competence in this field and assure competition, the government has obtained a commitment from Kraus-Maffei that prior to May 1, 1974, the company will set up a Canadian-controlled company to hold one of the sub-licenses. This com-

pany, like other sub licensees, will pay royalties to the Ontario government. Part of the contractual arrangements assures further technological developments by Kraus-Maffei will be made available to the government, as they are developed.

Mr. Davis said that "the government has assumed the role of developer by providing the demonstration track at the CNE for the intermediate capacity transit system, and," the Ministry of Transportation and Communications will take on the role of designer through supervision of design improvements resulting from the testing program at the CNE track."

LOWER COST

Compared to subway construction costs, the fully-automated KM system will be bargain-priced. For the planned Metro Toronto 56-mile system, the cost per mile has been estimated at \$13.4 million. Current subway costs are in the area of \$35 million per mile, and this is expected to rise to \$40 million per mile in the near future.

The new system would have a capacity of 20,000 passengers per hour, and would have the built-in adaptability for future expansion to keep pace with population growth.

Finally, the measurable benefits of such a system to the general well-being of the environment are obvious. If the KM system turns out as well as it looks on paper, we could see the dawning of an exciting and much more livable era of public transit.



Experimental vehicle by Kraus-Maffei is shown on special test track in Germany.

Auto emission problems at APCA

The annual Spring Meeting of the Air Pollution Control Association Ontario Section was held at the Sheraton Connaught Hotel in Hamilton in April.

Three sessions were held, one centred on the automotive emission control question, specifically federal standards and their effect on air quality in Ontario.

The other sessions covered designs and evaluation of air pollution control equipment and the abatement of noise.

D. M. Benford, President of the APCA, made the keynote speech at the auto session, and it soon became apparent that the gulf between the industry, the government of Ontario, and the federal authorities was a wide one.

Mr. J. Christman of the Air Pollution Control Directorate stated the federal case, which for all intents and purposes was the same as that laid down by the Environmental Protection Administration in the U.S.A. This means that the Canadian federal authorities are for the introduction in 1976 of catalytic muffler systems and along with these universal adoption of unleaded fuel (leaded fuel destroys the effectiveness of a catalyst).

The federal argument was that the use of these devices, even though they would represent added consumption of gas-

oline and a much higher price to the buyer at new car purchase time, would result in a lowering of overall hydrocarbon and carbon monoxide emissions across the board with a resultant bettering of the ambient air quality. The counter arguments from both industry and the Ontario Government (Ministry of the Environment, Air Management Branch) all tried to refute the opinions held by the federal people. First, all representatives from the four major domestic makers stated that the benefits from the complicated additional equipment would be more than offset by brutally high fuel penalties (as much as 20 per cent compared to current cars) and operating problems that would make current problems (quite serious) look simple by comparison.

AMB'S CASE

John Jeffries, of the AMB, presented a paper entitled Effects of Federal Standards on Current and Future Air Quality in Ontario. A strong part of this presentation showed that the Branch's efforts in air management over the last several years had brought levels of pollution down, in some cases by half, while the gradual removal from the roads of uncontrolled cars and the addition of controlled models

would further enhance the province's air quality WITH-OUT the need for catalytic systems and more stringent add-on controls.

Provincial ambient air quality standards for carbon monoxide are: One-hour average-40 ppm; Eight-hour average-15 ppm. Proposed federal acceptable standards have been set at 30 parts per million for the one-hour average and 13 ppm for the eight-hour average.

The "desirable" federal standards are far more stringent, and will require a far higher measure of control if they are to be met even by 1980. They are one-hour average 13 ppm and eight hours five ppm.

Mr. Jeffries stated that "controls have considerably reduced the maximum readings and have reduced the levels covering 70, 90 and 99 percentile values. From 1969, the one-hour (40 ppm) standard has not been exceeded once. In fact, in 1970, the one-hour criterion was exceeded only during two hours at one monitoring station in the whole province. In 1971, the highest one-hour figures recorded throughout the province were 25 ppm in Toronto and 23 ppm in Windsor."

"If we consider the proposed one-hour standard (30 ppm) in 1970, apart from two

suspect Hamilton readings, the 30 ppm standard was exceeded on only one occasion (College street, Toronto) during the whole year throughout the province. This standard was achieved at ALL monitoring stations throughout 1971," he said.

Whatever standard is enforced in the future, Jeffries explained, there will undoubtedly be certain locations where the standards will not be met. A good example was the short stretch of Yonge street that was closed for a public mall last summer. Heavy traffic was diverted to two adjacent streets, but these streets did not experience any added levels of carbon monoxide, which indicated that under normal traffic flows, vehicles travelling up Yonge Street would not produce high levels of pollution.

After the mall was removed and the street opened again to full traffic, it was discovered that quite high readings were found at one point, between two facing buildings of equal height. The phenomenon was found to be caused by a curious wind vortex generated by these structures—a fact that tended to keep the fumes circulating in the space between the buildings. It was calculated that emissions in this street could be cut by 20 per cent by making the tho-

roughfare a one-way street.

In a case such as the Yonge Street phenomenon, counter measures on a purely local scale will have to be taken, rather than over-harsh controls on the entire vehicle population.

During the seven-week monitoring period at the Yonge location, although the 40 ppm level was not exceeded, the 30 ppm limit was exceeded on two occasions, and the 15 ppm and 13 ppm (eight-hour) limits exceeded on 11 occasions. Indications show that with the replacement of older uncontrolled cars with new controlled models, even taking into account the increased vehicle population, carbon monoxide levels at this location will easily meet the standards for 1975.

ECONOMIC PROBLEMS
Dr. Phil Hill of Queens University described the economic relationships of the proposed standards and the relationship to the energy crisis.

He noted that since the construction of the Ontario Government GO rail transit system five years ago, the traffic density on an adjacent Queen Elizabeth Highway had risen by ten per cent, making it still obvious that there was still much work to be done to persuade a good part of the commuting public to leave their cars at home.

Ecologie in second season

Ecologie, the Ministry of the Environment's travelling puppet show is entering its second summer of operations with an expanded schedule and troupe.

Ecologie is a SWEEP project that was created to acquaint children with pollution problems.

The show is providing summer jobs for nine students—most of whom attend Humber College of Applied Arts and Technology—four more than the number involved with the project last year.

The students will work in two crews, touring as far west as Kitchener—Waterloo, north to Orillia and east to Oshawa. They will perform at playgrounds, day camps, conservation areas and libraries from June 25 to August 31. Last year just one crew toured Metropolitan Toronto and the surrounding area.

Ecologie will be at the Rexdale campus of Humber College, where the crews will construct their stages and puppets. The troupe will begin their tour each morning at the college and return there at night.



Ecologie puppeteer Lise Hodgson plays with Grezelda Crabtree and Charlotte. Lise, a 19 year old student at Z art school, made the puppets especially for the show.

Noise under fire

"God is a first-rate acoustical engineer. We have been more inept," said composer Harry Freedman during a Town Hall panel in Toronto's St. Lawrence Centre.

"It's interesting to consider that while the voice can be raised to quite a loud level, at no time can it be raised beyond the level where it might endanger the ear."

Man's ingenuity, on the other hand, has come up with the electronic amplifier, which the composer described as "a potentially lethal weapon."

His comments and the meeting followed Environment Minister James Auld's announcement in London of noise regulations for Ontario which go into effect starting this year.

LEVELS RISING

Studies indicate that noise levels in urban centres are doubling every decade, and the Ministry is becoming increasingly concerned about the effects of prolonged exposure to a noisy environment.

There are several broad categories of noise sources: Vehicular traffic, aircraft and railroad traffic, stationary sources—this includes not only factories and businesses but air conditioners and other home conveniences like power mowers and kitchen appliances, nuisance noises and recreational devices.

The first major step in control in Ontario will be the regu-

lation of the operational noises of individual vehicles.

HOT RODDERS

That phrase operational noise covers more than the accessory trade—the loud mufflers young hot-rodders buy to give their cars the sound of power.

It also covers the way you drive your car. If you race your engine through the gears, your tires screaming through a tight turn, you might find a policeman flagging you down for a noise violation.

More than five percent of the drivers on our roads are in for trouble under the new noise regulations if they don't mend their ways.

The stationary noises and those recreational vehicles—snowmobiles for instance—are also in line for control.

Mr. Freedman suggested to the panel that noise is linked to exploitation development—"the bigger the rape of the environment, the noisier it gets."

Panelist John Downing, a Toronto Sun writer, told the audience at the meeting that to some extent, the amount of control over noise depends on the public, and the demand the public expresses to the government.

He told an anecdote about East York Mayor Willis Blair awakened in the middle of the night by a telephone call. The caller congratulated the mayor on the efficiency of East York's street cleaning.

Mayor Blair, while appreciative of the compliment, asked why the caller had picked so late an hour to deliver it.

The voice rose as the caller replied: "Because one of your trucks just went by."

D. J. Batty, the City's senior environmental engineer, said that while traffic is a major source of complaint, it is not always the major source of noise. While Yonge Street was closed, making a downtown pedestrian mall, the noise levels on the street went up. This was caused by people noise—walking, talking, shouting, amplified music and all the other mall activities.

Dr. Jan Duxszta, MPP for Parkdale, stressed the emotional upset and damage that noise can cause. He outlined one example.... involving trucks passing along an apartment canyon.

From rustle to racket

For the purpose of controlling noise and minimizing the irritation and even emotional and physical damage it causes people, sound is measured in terms of decibels on the A scale (dBA). This is the scale that covers the range of frequencies heard by the human ear.

The threshold of hearing—the sound you barely catch—is one decibel. A rustling leaf is 10, a quiet house is 20 and a soft whisper 30.

A conversation between two people involves 50 to 60 decibels. A private car runs at 70 decibels and the sound of a busy street is 80 decibels.

Of course traffic noise is not the only factor on busy streets. When Toronto shut down Yonge Street to convert it last year to a temporary summer pedestrian mall, the noise levels rose, with the additional sound from people walking and talking, from loudspeakers

ENVIRONMENTAL AGGRESSION

Much of tomorrow's international strife may arise from environmental disputes, Maurice Strong, Canadian executive director of the United Nations environmental program, told a dinner meeting of the World Federalists in New York recently.

He said that 70 percent of earth's ocean surface and air space lie outside national jurisdiction, and the sharing of these international commons could give rise to conflict.

"Until now, it could be said that we did not understand what we were doing and any damage caused was inadvertent."

"Today, we do know. And for a country knowingly to continue pouring pollutants into an international waterway or air shed or to employ the new techniques of weather modification, or to alter the course or level of a shared water resource to the extent that it causes economic or social damage to a neighboring country could well constitute a new form of aggression."

He said this environmental aggression could be more dangerous and harder to deal with than traditional forms.

A-BOMBS FOR PEACE

Nuclear test banis are being proposed in India and in the U.S. for peacetime industrial projects.

In the United States, environmental controversy centres around a program of underground nuclear tests in shafts to test the feasibility of this technique for releasing subterranean deposits of natural gas.... Added to environmental objections is fear of oil shale interests that shale deposits will be damaged by the tests.

India, realizing that foreign assistance in nuclear experimentation is unlikely, is studying A-test possibilities to see if there is economic justification. While the country's minister of state for home affairs insists India is not interested in developing bombs, he announced recently that he was interested in the use of atomics in mining non-ferrous metals.

His announcement comes on the heels of a press campaign undertaken by several newspapers urging the development of an Indian nuclear technology.

NUCLEAR WASTES BURIAL

A report in the New Scientist early this year urged the burial of hazardous nuclear wastes in the thick ice cap of Antarctica.

Encased in small cylinders, the highly radioactive atomic wastes would slowly melt their way downwards when deposited on the ice. The three scientists behind the proposal say that the wastes would sink to the depth of a mile within three to five years, with the shaft freezing behind them as they descended.

Barring major changes in the earth's climate to melt the ice cap, the wastes would be securely out of harm's way for hundreds of thousands of years.

The technique was proposed more than 15 years ago, but the rapid accumulation of these dangerous wastes is reviving interest in it.

A SUPERSONIC BOOM

Large numbers of supersonic aircraft could have detrimental effects on the environment, according to the prestigious U.S. National Academy of Sciences.

The academy's environmental studies board recently reported concern about the effect of exhaust fumes and water vapor from heavy supersonic air travel. It suggested that this could damage the ozone layer which screens out ultraviolet from the sun's radiation.

The report noted that a five percent decrease in ozone would lead to a 25 percent increase in ultraviolet radiation on the earth's surface, which could cause 9,000 additional cases of skin cancer a year in North America alone.

While the question of jets damaging the ozone layer is still a matter of much debate, the report viewed the possibility with concern.

Decibels on the farm

The farmer wearing earphones as he guides his tractor along the furrows in the fields to Beethoven's Ninth Symphony. He is turning down an invitation to deafness.

Noise from all types of farm machinery is not only irritating, it is also a form of pollution that leads to deafness for the operator if the

proper precautions are not taken. Earphone-type ear protectors, at from \$7 to \$12 a set, are one of the cheapest methods farmers can use to protect their ears against harmful noise levels, says P. H. Bomford, head of the Engineering Section, Ridgeway College of Agricultural Technology.

turned out to pour music on the street and from the clinking of glasses and mugs.

As we approach 90 decibels—the sound of a heavy truck, we near the danger area where prolonged exposure can affect human hearing. This range covers noise levels up to 120 decibels—the sound from a propeller aircraft just over 50 yards away.

As sound approaches the racket of a rivet gun—130 decibels—it crosses the pain threshold and a jet engine at about 25 yards reaches 140 decibels of audible sound that is really felt.

There aren't many of us exposed to jet engines at these distances, so possibly this source as a contributor to deafness is not relevant to everyday life.

ROCK

But there are other sources that are. At one rock concert,

the music was measured at 120 decibels directly in front of the bandstand and 108 decibels on the dance floor.

Permanent hearing losses of up to 50 decibels have been measured in one five-man group, all less than 23 years old. This is the expected normal loss of hearing for a 60-year-old man. In a year or so as musicians, this group would wind up with retirement-age ears.

A few years ago, in one Canadian city, a medical health officer noticed a considerable amount of hearing loss among children of 12. By 1970, it was discovered that 5 percent of the 12-year-olds, 14 percent of the 15-year-olds and 20 percent of the 18-year-olds have defective hearing.

Voluntarily adding noise to the sound intensities that are imposed on us in our environment without our consent can be dangerous.

EcoLogic

Objectives

In this issue, Legacy gives extensive coverage to the expanded programs being undertaken by Environment Ontario during 1973.

In his presentation to the Legislative estimates committee, Environment Minister James Auld outlined major extensions of aid to municipalities to provide better sewage and water treatment facilities for communities of all sizes. And municipalities of all sizes across Ontario are taking advantage of Provincial aid to safeguard the health and the quality of life of their citizens.

It's too easy to look at pollution as a problem of the cities. It isn't. It is something that has to be faced and dealt with in any community, anywhere.

That's a fact of life that is recognized in this year's program. Provincial aid for capital construction of water and sewage treatment facilities has been increased from a maximum of 50 percent to a maximum of 75 percent. The reason for the increase was simple. It brings the benefits of these facilities within the financial reach of citizens in small communities who need the services.

Traffic noise and noise from stationary sources can create problems wherever roads run and industry locates. Noise from recreational vehicles, particularly snowmobiles, if of little concern to a city dweller, but of great concern to the landowners and cottagers who live where snowmobilers play.

The Ministry intends to deal with these problems and, in addition, to develop a model noise bylaw for municipal use that is enforceable in a wide range of communities.

The pesticides control machinery is being streamlined as a further step in safeguarding the public from the abuse or misapplication of insecticides, herbicides and fungicides in all situations, whether urban or agricultural.

And waste management in Ontario is working with communities to develop an approach to waste that is more than just garbage disposal. The goal is recycling of waste—the maximum reuse of waste and reclamation of resources and energy. The waste problem is most obvious in the cities with the massive quantities generated by concentrated populations. But the waste load is no less of a problem in a small town lacking the financial resources of the cities. In one way it is more of a problem, because a small community, on its own, does not produce a quantity of waste that can be economically and efficiently recycled.

The program of area planning for waste management, and the next step—the implementation of this planning—will develop improved treatment of this problem.

But one essential ingredient is essential for the full realization of the benefits from these and other environmental protection, enhancement and restoration programs—the willing cooperation and support of people and the communities of which they are a part.

In the final analysis, we all share a responsibility for the consequences of our impact on the environment. And we must individually accept this responsibility and contribute to the solutions of the various problems that we have all had a hand in creating.

No government has the power—no government should have the power—to lift the full weight of this duty from our shoulders.

All any government agency can do is to help us help ourselves.

Cottagers meeting

March 28 saw the 1973 annual meeting of the Federation of Ontario Cottagers Associations take place at the Lord Simcoe Hotel.

Jim Jansse of the private waste and water management branch of Environment Ontario outlined the Ministry's cottage pollution survey for this year to 250 association members. His presentation covered the objectives of the program, including ways in which the cottager can ensure that pollu-

tion to lakes and rivers is minimized.

Jim Bruce of the Canada Center for Inland Waters spoke on the effects of the high lake levels on shoreline properties and methods of reducing the high water levels.

In addition to general business, Inspector Fred Blucher of the Ontario Provincial Police handled a significant presentation on security methods to avoid theft and break-ins.

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Editor William M. Dadds
Director of Information Services M. F. Cheetam

ENVIRONMENTAL STUDIES

Straight Goods III

By DAVID ALLEN
Educational Resources Coordinator

During the period August 26-29, three hundred students from the secondary schools across Ontario will gather at the University of Western Ontario, London for the Third Straight Goods Conference. The conference, sponsored jointly by the Ontario Ministry of the Environment and a provincial university, was held at Queens in 1972 and Laurentian in 1971.

This year's conference has been expanded to a full three days based on the recommendations put forth by students at last year's conference in Kingston. There, the three hundred delegates together with over 50 resource people for government, industry and private concerns closely examined the major environmental concerns facing Ontario. A highlight of this year's Straight Goods is expected to be Energy Day when representatives for the energy producers sector along with major energy consumers will debate the question of the "Energy Crisis and the Environment".

Former Premier of Ontario, John Robarts, a resident of London will officially welcome the student delegates and open the conference. Throughout the conference, the beautiful campus of Western will be open to the students. In addition to the formal program of the conference, the planning committee has arranged for a variety of exhibits to be set up. The Pollution Probe Caravan, currently touring Ontario will also be stationed on campus.

Students interested in attending Straight Goods must be in high school and returning to the same school in the fall. Application forms, brochures and posters have been distributed to each secondary school, to each principal and the president of students council. Students should contact their principal for details. Single copies of the Straight Goods poster are available on request.

For further enquiries contact the Educational Resources Co-ordinator at the Information Services Branch of the Ministry.



Power from garbage

Environment Ontario is studying the feasibility of burning garbage to produce electricity at Lakeview Generating Station, Environment Minister James Auld announced recently.

The waste from waste study team is headed by Tony O'Donohue, an engineer deeply involved in environmental issues. As a Toronto alderman, he was first chairman of the city's environmental committee.

The study team is composed of representatives from Ontario Hydro, Metro works department and the Ministry's air and waste management branches.

Mr. Auld told the Legislature he expects to see preliminary results from the study by the end of June.

DEPLETION

He stressed the importance of developing the use of waste as fuel when we are faced with the depletion of our fossil fuel resources. And metals can be reclaimed for recycling in the process.

Mr. O'Donohue was enthusiastic about the study: "We know that garbage can be used as fuel. It has half the heat value of coal and every non-combustible that is removed—such as metal and glass—increases the heat value."

Combining incineration and generation gives us total recycling, he said. "Metal and glass are recycled and the rest of the waste is reclaimed as energy."

If the problems involved can be solved, he said, he expects a significant saving over the normal costs of incineration as a bonus to the electrical energy produced.

Mr. Auld and the study group visited a garbage-fired generator in St. Louis, the first in North America, financed by U.S. federal environment authorities.

Two boilers are involved in the experiment at the Union Electric Company plant in St.

Louis, and the experimental installation has been in use since April, 1972. Domestic solid waste from the city is fed through a large hammer mill for grinding. Then magnetic metals are removed. Non-magnetic metals, glass and ceramics are left to feed through the generator furnaces with the balance of the waste. In this experimental installation some 300 tons of garbage a day are processed and used as fuel—the output of 170,000 people.

Brampton recycles

Environment Ontario and the Town of Brampton are co-operating in a summer long paper recycling project.

The experiment, recently announced by the Ministry, involves public separation of newspapers and newspaper wastes. A truck with a crew of four students assigned by the waste management branch, will follow the town garbage collection routes on regular collection days to pick up bundles of paper.

The people of Brampton are being asked through local media to separate and bundle their newspaper waste for collection. The project began May 28 and will continue until the end of August.

Since Wednesday's normal garbage load is more than twice that of any other day, the student collection crew will be doubled one day a week.

Collected newspaper will be delivered either directly to a recycling plant which manufactures roofing papers or to a building provided by the town of Brampton Fair grounds.

The project is designed to evaluate on type of separation and recycling and the results will be compared to other methods. In addition to the Burlington Recycling study, reported recently in Legacy, the Ministry plans an experiment with a series of drop-off depots in an unspecified community and another in Lindsay where a dial-a-pickup service is planned.

Records are kept of all these experiments and these, with public attitude surveys conducted by the waste management branch, will help in meeting Environment Minister James Auld's goal of "all wastes recycled to the greatest degree possible."